

Feature Story

Boeing completes autonomous flight test trifecta

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Boeing has conducted an end-to-end flight mission using three high performance test beds in outback Queensland, marking another successful milestone for the Autonomous Systems Platform Technology Project.

“The goal of our mission was to completely test out our mission system software from start to finish, using three high performance jets,” said Emily Hughes, director of Boeing’s Phantom Works International.

During the flight, Boeing Australia successfully performed a number of tests, including the three jets taking off autonomously, achieving the required in air formations, departing from the formation and each autonomously landing.

“While we have previously flown larger numbers aircraft autonomously, this was our first opportunity to perform an end-to-end mission test with three high performance test bed aircraft, at speeds of up to 200 kilometers per hour,” said Hughes.

“The test returned pleasing results, demonstrating our mission system is performing as intended, and it is a huge credit to our technical team, along with our suppliers RFDesigns who supported the flight mission on-site in Tara.”

The Autonomous Systems Platform Technology Project is Boeing’s second Advance Queensland investment partnership with the Queensland Government. Boeing and its partners are developing new on-board autonomous command and control technology to enable unmanned vehicles to perceive, process, communicate and act in accordance with their programmed mission – without input from a human operator. Boeing will continue flight tests for the project in Cloncurry later this year.

“Boeing is a key global player in the sector. We look forward to the company being the first user of the Cloncurry Flight Test Facility in North West Queensland; Australia’s first drone flight test facility,” said Kate Jones, Minister for State Development, Tourism and Innovation. “We’ve invested \$14.5 million to develop the new facility, which we believe is critical to a UAS industry in the state, creating jobs and economic benefits in Queensland.”

The technology developed as part of this project is informing Boeing’s development autonomous aircraft, including the Boeing Airpower Teaming System.

The image shows a screenshot of a flight simulation software interface. The central part of the screen displays a top-down view of a drone formation, with several white lines representing the drone's path or formation structure. The interface includes several panels: a 'Target Control' panel at the top left with a play button and a search bar; a 'Tracks' panel below it showing 'Draw 4D Streams', 'Hide 4D Fields', 'Separate Track & Display', and 'Auto Refresh'; a 'MISSION TASKING' panel at the bottom left with 'Start' and 'Task' buttons; an 'Object Detection' panel at the top right with a search bar and a list of objects; and a 'Plot Stats' panel at the bottom right showing a line graph of 'Loss Pickups Percentage' over time. A blue banner at the bottom of the screenshot contains the text: 'Using artificial intelligence they completed formations without human intervention'. A video player control bar at the very bottom shows '0:00 / 0:24'.

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